



**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS  
2021/2022 ACADEMIC YEAR**

**SECOND YEAR, FIRST TRIMESTER EXAMINATIONS**

**FOR THE DEGREE  
OF  
CLINICAL MEDICINE SURGERY AND COMMUNITY HEALTH/BSC.  
HEALTH PROFESSIONS EDUCATION**

**COURSE CODE: HCM 242/HPE 205**

**COURSE TITLE: HUMAN NUTRITION AND DIETETICS**

**DATE: THURSDAY 13TH JANUARY 2022**

**TIME: 2:00-5:00PM**

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**INSTRUCTIONS TO CANDIDATES**

Answer all questions

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 5 Printed Pages. Please Turn Over. ►

**HCM 242/HPE 205: HUMAN NUTRITION AND DIETETICS**

**SECTION A: MULTIPLE CHOICE QUESTIONS**

**(20 MARKS)**

**Instructions:** This section consists of 20 questions of one mark each. Answer all the questions by choosing the correct answer from among the options provided under each question.

1. The health of an individual as it is affected by nutrient intake and utilization is
  - A) Nutritional Assessment
  - B) Nutritional Status
  - C) Normal Nutrition
  - D) Nourishment
2. The chemical substance that nourishes the body is
  - A) Protein
  - B) Minerals
  - C) Vitamins
  - D) Nutrients
3. Glucose is transported in blood in the form of
  - A) Maltose
  - B) Sucrose
  - C) Glucose
  - D) Dextrose
4. Milk sugar is
  - A) Glucose
  - B) Galactose
  - C) Fructose
  - D) Lactose
5. Pectin, Hemicelluloses and lignin are all referred to as
  - A) Sugars
  - B) Carbohydrates
  - C) Starches
  - D) Polysaccharides
6. Excess glucose is converted and stored in the form of
  - A) Fats as adipose tissues
  - B) Glycogen and stored in the liver and muscles
  - C) Excreted in the urine through the Kidney
  - D) Left in the body as blood glucose
7. Dextrane that adhere to the teeth are referred to as
  - A) Dental Fluorosis
  - B) Dental plaque
  - C) Dental Caries

- D) Periodontitis
8. The visual capacity of the eye is enhanced by
- A) Ascobate
  - B) Retinol
  - C) Niacin
  - D) Biotin
9. Normal blood sugar level in adult ranges between
- A) 2.5 mmol/L – 5.5 mmol/L
  - B) 3.5 mmol/L – 6.8 mmol/L
  - C) 3.5 mmol/L – 8.2 mmol/L
  - D) 4 mmol/L – 10 mmol/L
10. The use of heparins in treatment necessitates supplementation of
- A) Retinol
  - B) Riboflavin
  - C) Phyloquinone
  - D) Calciferol
11. An important measure that may prevent bacterial contamination in tube feeding formulas is:
- A) Nonstop feeding of formula
  - B) Using the same feeding bag and tubing each day.
  - C) Discarding opened containers of formula not used within 24 hours
  - D) Adding formula to the feeding container before it empties completely
12. Compared with intermittent tube feedings, continuous feedings:
- A) Require an infusion pump
  - B) Allow greater freedom of movement
  - C) Are more similar to normal patterns of eating
  - D) Are associated with more GI side effects
13. A patient needs 1800 milliliters of formula a day. If the patient is to receive formula intermittently every 4 hours, how many milliliters of formula will she need at each feeding?
- A) 225
  - B) 300
  - C) 400
  - D) 425
14. The term that describes the amount of enteral formula remaining in the stomach from previous feeding is:
- A) Residue
  - B) Osmolar load
  - C) Gastric residual volume

- D) Intermittent feeding
15. The nurse using a feeding tube to deliver medications recognizes that:
- A) Medications given by feeding tube generally do not cause GI complaints.
  - B) Medications can usually be added directly to the feeding containers.
  - C) Enteral formulas do not interact with medications in the same way that foods do.
  - D) Thick or sticky liquid medications and crushed tablets can clog feeding tubes.
16. Total Parenteral Nutrition is preferred over Partial Parenteral Nutrition for a patient who :
- A) Does not have high nutrient requirements.
  - B) Needs long-term parenteral nutrition support
  - C) Has strong peripheral veins and moderate nutrient needs.
  - D) Needs parenteral infusion as a supplement to tube feedings.
17. For a patient receiving central TPN who also receives intravenous lipid emulsions two or three times a week, the lipid emulsions serve primarily as a source of:
- A) Essential fatty acids.
  - B) Cholesterol.
  - C) Fat-soluble vitamins.
  - D) Concentrated energy.
18. Which nutrient is often omitted from parenteral solutions because it may destabilize other ingredients in the solution?
- A) Calcium.
  - B) Vitamin K
  - C) Iron
  - D) Chromium
19. Refeeding syndrome causes dangerous fluctuations in:
- A) Serum electrolyte
  - B) Serum liver enzyme levels
  - C) Blood triglyceride
  - D) Ketone bodies
20. Patients using home parenteral nutrition
- A) Are unable to use TNA solutions
  - B) Are usually given continuous rather than cyclic infusions
  - C) Are generally unable to work out of the home or travel
  - D) Require infusion pumps for use at home.

**SECTION B: SHORT ANSWER QUESTIONS**

**40 MARKS**

- 1) Describe Four examples polysaccharides that are important in human nutrition (8mks)
- 2) Providing two examples in each case explain the food groups important in dietary planning (8mks)

- 3) Draw a well labeled diagram of the human eye indicating the section affected by Vitamin A (8 marks)
- 4) Highlight the potential Health complications associated with inadequate intake of Dietary fiber (8 marks)
- 5) Calculate the daily Energy requirement estimates for a male human being who is moderately active and weighing 70kg (8 marks)

### **SECTION C: LONG ANSWER QUESTIONS**

**40 MARKS**

#### **Question One**

Using Carbohydrate source of your choice explain the digestion process in the human digestive system (20 marks)

#### **Question two**

Identify the protein digesting enzymes in the groupings of proteases and peptidases while providing an illustration of the areas of action along a molecular primary structure of a tripeptide protein (20 marks)

